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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/698,204	08/14/1996	TOSHIMITSU KONUMA	0756-1553	1806
22204	7590	11/04/2003		
NIXON PEABODY, LLP 8180 GREENSBORO DRIVE SUITE 800 MCLEAN, VA 22102			EXAMINER PARKER, KENNETH	
			ART UNIT 2871	PAPER NUMBER

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n No.

08/698,204

Applicant(s)

KONUMA ET AL.

Examiner

Kenneth A Parker

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 13-15, 21, 24-29, 35-40, 42, 45, 47-49, 61-70 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

- 5) ☒ Claim(s) 56-60 is/are allowed.
- 6) ☒ Claim(s) 13-15, 21, 24-29, 35-40, 42, 45, 47-49 and 61-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 56
- 4) ☒ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

**I. Claims 25-29, 35-39 and 47-49, 61-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mawatari et al 5200847 in view of Niki, U.S. patent # 5,278,682.**

Mawatari et al discloses a liquid crystal device with a first substrate, second substrate, active devices in an active display region, driver circuits, and a sealing member, which encloses circuits, seals the liquid crystal, and which may optionally completely encloses the circuits (spec). The right side is shown with the edges of the sealant and substrates at least substantially aligned. The circuits on the substrate have a sealant between themselves and a cover glass.

The sealant being a UV curable adhesive was a conventional practice which offers the benefit of enabling selection of the time of curing and patterning, the circuits on both the driving section formed using the same processes as those in the display section. The use of common processes saves cost and the UV curing enables low cost simple fabrication. Therefore, it would have been obvious, in the device of Mawatari et al, to use a UV curable adhesive to enable patterning and simple low cost fabrication, and to use common processes for both circuit regions to save cost. The use of a fill port at the aligned edges was disclosed by Niki, stating the advantage of enabling filling without immersing the substrates in the reservoir (abstract). Therefore it would have been obvious, in the device of Mawatari et al, to employ a fill port at the aligned sides

(those without drive circuits) for the benefit of avoiding immersion of the substrates.

The use of silver paste to connect the electrodes was conventional, and would have been obvious for that reason. The use of sealing resins was conventional in semiconductor devices, and considered to be obvious for that reason.

**II. Claims 13-15, 21, and 24-29, 35-40, 42,45, 47-49 and 66-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo JP KOKI # 1-49022 in view of Niki, U.S. patent # 5,278,682.**

Matsuo discloses a liquid crystal device with first substrate, and active matrix substrate with pixels in a matrix, driver circuits comprising TFTS, second substrate, liquid crystal between the substrates a resin material covering the driver circuits, and a sealer around the liquid crystal and driver circuits. Not clearly disclosed is the presence of an "inlet", however, the materials must have been introduced to the device, so somewhere, on something there must have been an inlet, or it would have been obvious to employ an inlet to enable control of the introduction of the materials.

The use of a fill port at the aligned edges was disclosed by Niki, stating the advantage of enabling filling without immersing the substrates in the reservoir (abstract). Although Matsuo shows a device with circuits on both sides, it was well known that the drivers could be functionally equivalently placed on two sides, which would have been obvious for that reason. Therefore it would have been obvious, in the device of Matsuo, to employ a fill port at the aligned sides with two sides having the circuits, for the benefit of avoiding immersion of the substrates. It would have been further obvious to use the

side with out the circuit because the sides with the circuit have a material enclosed in a sealant which would have been an obstruction from putting in a port there. The fill hole of Matsuo is shown on a side substrate, which simply had to be done to enable filling (the liquid crystal could not be filled through the double structure with the circuit on four sides. With the circuit on two sides, the conventional approach could have been taken, and therefore would have been obvious.

Providing with active matrix as amorphous silicon and the driver crystalline was well established, as the driver section is often the only one that requires the higher speed requiring crystalline silicon. The employment of and MIM diode was well known in the art as a lower cost alternative to TFT's, and epoxy and UV curing resins is essentially a complete list of the conventionally use materials, used for low cost, ease of assembly or the ability to pattern. It was well known to employ spacers in the sealing materials on liquid crystal devices to enable even spacing without stress forces related to omitting them. The use of silver paste to connect the electrodes was conventional, and would have been obvious for that reason. The use of sealing resins was conventional in semiconductor devices, and considered to be obvious for that reason. Further it would have been obvious to replace the low dielectric gas with a resin, as resin were well known for having a low dielectric, and as described above, were conventionally used with semiconductor devices.

***Allowable Subject Matter***

Claims 56-60 are allowed.

***Response to Arguments***

The evidence of unexpected results was not considered to tip the balance away from the finding of obviousness. From the reference it was unclear if the context was the same (what was the device structure was not clear). Additionally, the avoiding spoiling of the liquid crystal material was in a secondary reference applied by the examiner, showing that the result was not indeed "unexpected". Applicant's advantage of reduced damage due to static may be an unexpected result, or a newly found problem, which would be indicative of non-obviousness. Some evidence establishing facts relating to this should be presented for evaluation, as attorney arguments cannot take the place of facts.

Applicant's arguments regarding the silver paste or spacer used to connect the substrates are not agreed with. In particular, applicant's arguments relating to the word "element" are not agreed with, as anything is an element. In active matrix devices, a the common electrode on the other substrate was conventionally connected to via silver paste or a conductive spacer, and in passive, take out electrodes were done through these. The conductors are "conductive elements", and henceforth are elements

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(otherwise what applicant considers an element cannot be determined). The conventional use of silver paste or a conductive spacer is evidenced by the following references:

JP61-056322,	Todokoro	abstract
JP03-059543	Ipponsugi et al	
5311342	Watanabe	-column 1 description of conventional art.
5556670	Mihara et al,	column 5
5532850	Someya et al	column 15
5402254	Sasano et al,	column 5
5420708	Yokoyama et al	column 3
5113273	Mochizuki et al	column 13
6124904	Sato	
62-240934	No abstract, but partial translation indicates silver gives good conduction.	

Applicant's arguments regarding "surrounding" are not persuasive, as covering should include surrounding. Applicant appears to be arguing as though the language states "Surrounding but not covering when viewing from the normal to the device", language which is clearly not in the claim. Such language would require that instead of Mawatari, other references would need to be used, however, the applied references '023 and '022 appear to still be relevant. The '022 reference clearly shows a surrounding-but-not-covering resin and a separate covering resin.

Applicant's arguments in respect to the fill port being located in a side without the driver circuits are not agreed with, as motivations have been provided for the combinations. The Niki reference teach is clearly applicable to Mawatari et al, which would suffer the problem described by Niki if done other wise. With Matsuo et al, done as a device with a circuit on two sides instead of four, the conventional method of filling such cells is at the edge as shown by the references listed below (with two sides having circuits or connections, there would have been no reason to peirce the substrates), which would have been obvious for that reason. Regarding applicants assertion that the location is claimed not the alignment of the substrates, it is noted that the primary reference Mawatari has these issues as identical.

Some references showing that edge filling of two or three circuit sided devices (through connectors or other) was conventional:

JP04-355433

JP05-188379

JP03-246522

JP4-042215

JP3-246522

US5548428

JP4-93925

JP5-188379

JP5-257136

JP5-061054.



JP04-083227

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

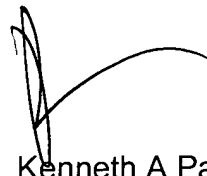
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

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A handwritten signature in black ink, appearing to read 'Kenneth A. Parker', written over a horizontal line.

Kenneth A Parker  
Primary Examiner  
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11/03/2003